



**United States Telephone Association**

1401 H Street, N.W., Suite 600  
Washington, D.C. 20005-2136  
(202) 326-7300  
(202) 326-7333 FAX

January 27, 1995

Mr. William F. Caton  
Acting Secretary  
Federal Communications Commission  
1919 M Street NW - Room 222  
Washington, D.C. 20554

JAN 27 1995  
COPY SENT BY ORIGINAL  
FEDERAL COMMUNICATIONS COMMISSION  
SECRETARY

RE: Ex Parte Meeting  
CC Docket No. 94-1

Dear Mr. Caton:

Attached is an analysis of the data corrections used by Christensen Associates in their preparation of the 1993 Total Factor Productivity Update prepared for USTA and filed on January 20, 1995, by ex parte in this proceeding.

Whit Jordan, Mike O'Brien and Frank McKennedy representing USTA met with Mark Uretsky and Dr. Anthony Bush of the Commission's Tariff Division to review this analysis.

A copy of this ex parte notice and the attachment are being filed in the Office of the Secretary on January 27, 1995. Please include this notice and attached material in the public record of these proceedings.

Respectfully Submitted

A handwritten signature in cursive script, appearing to read "Mary McDermott", is written over the typed name.

Mary McDermott  
Vice President and General  
Counsel

cc: Mark Uretsky  
Dr. Anthony Bush

No. of Copies rec'd  
List A B C D E

052

UNITED STATES TELEPHONE ASSOCIATION  
SUMMARY ANALYSIS OF DATA REVISIONS USED  
IN THE CHRISTENSEN ASSOCIATES 1993 LEC TFP STUDY

RECEIVED  
JAN 27 1993

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY

The following attachments document the corrections in the composite 1984-92 data that were incorporated in the Christensen Associates 1993 update of the LEC TFP study filed in this proceeding.

Attachment A documents the changes in the 1984 current cost of gross stock numbers found in the data provided by the LECs. Presented are the corrected data used in the 1993 update, the original data used in the 1984-92 study, and the difference between corrected and original data.

Attachment B documents the changes in the 1984-1992 capital investment found in the data provided by the LECs. Presented are the corrected data used in the 1993 update, the original data used in the 1984-92 study, and the difference between corrected and original data.

Attachment C documents changes in the 1984-1992 telephone plant indexes found in the data provided by the LECs. Presented are the corrected data used in the 1993 update, the original data used in the 1984-92 study, and the difference between corrected and original data.

Attachment D documents the shift in total operating expenses between labor and materials found in the data provided by the LECs (overall, total operating expenses remained the same). Presented are the corrected and original series for labor, materials, and the sum of labor and materials expense.

Attachment E documents how the corrected materials expense and the corrected capital-to-expense shift (caused by the change in capital investment) created changes in nominal materials expense. Nominal materials expense is deflated by the GDPPI to obtain materials input.

Attachment F documents the changes in the billed revenue series for long distance and intrastate access.

## Attachment A

# CORRECTED 1984 GROSS CAPITAL STOCK

	1984 Reprod Cost
Asset Categories:	
(a) Genl Supt (excl land)	
2111 Land	\$1,168,149,124
2112 Motor Vehicles	\$2,274,802,351
2115 Garage Work Equip	\$195,809,705
2116 Other Work Equip	\$1,040,358,265
2121 Buildings	\$26,317,339,359
2122 Furniture	\$1,120,249,360
2123 Office Equipment	\$1,399,439,289
2124 Genl Purp Computers	\$2,959,876,997
(b) Central Office	\$44,394,171,554
(c) Operator Systems	\$217,430,992
Central Office/Oper Sys	\$44,611,602,546
(d) Transmission	\$32,225,383,077
(e) Information Orig/ Terminating	\$21,251,863,853
(f) Cable and Wire	\$100,118,158,453

# ORIGINAL 1984 GROSS CAPITAL STOCK

	1984 Reprod Cost
Asset Categories:	
(a) Genl Supt (excl land)	
2111 Land	\$1,023,470,316
2112 Motor Vehicles	\$2,132,299,701
2115 Garage Work Equip	\$193,474,644
2116 Other Work Equip	\$977,768,270
2121 Buildings	\$24,277,028,364
2122 Furniture	\$1,082,176,070
2123 Office Equipment	\$1,383,583,527
2124 Genl Purp Computers	\$2,908,117,729
(b) Central Office	\$41,185,817,119
(c) Operator Systems	\$185,043,906
Central Office/Oper Sys	\$41,370,861,025
(d) Transmission	\$29,045,252,488
(e) Information Orig/ Terminating	\$18,164,038,791
(f) Cable and Wire	\$94,455,319,302

DIFFERENCE: CORRECTED 1984 GROSS CAPITAL STOCK – ORIGINAL

	1984 Reprod Cost
Asset Categories:	
(a) Genl Supt (excl land)	
2111 Land	144,678,808
2112 Motor Vehicles	142,502,650
2115 Garage Work Equip	2,335,061
2116 Other Work Equip	62,589,995
2121 Buildings	2,040,310,995
2122 Furniture	38,073,290
2123 Office Equipment	15,855,762
2124 Genl Purp Computers	51,759,268
(b) Central Office	3,208,354,435
(c) Operator Systems	32,387,086
Central Office/Oper Sys	3,240,741,521
(d) Transmission	3,180,130,589
(e) Information Orig/ Terminating	3,087,825,062
(f) Cable and Wire	5,662,839,151

## Attachment B

## CORRECTED INVESTMENT

	1984 Additions	1985 Additions	1986 Additions	1987 Additions	1988 Additions	1989 Additions	1990 Additions	1991 Additions	1992 Additions
Asset Categories:									
(a) Genl Supt (excl land)									
2111 Land	\$73,849,873	\$31,678,423	\$51,272,221	\$21,242,763	\$32,231,987	\$28,890,823	\$41,159,693	\$24,600,824	\$42,611,902
2112 Motor Vehicles	\$175,637,716	\$217,612,404	\$247,968,583	\$243,789,710	\$218,462,331	\$237,099,215	\$226,914,857	\$223,568,578	\$164,235,793
2115 Garage Work Equip	\$6,147,471	\$6,329,364	\$6,684,643	\$4,728,612	\$24,547,572	\$25,112,597	\$28,572,494	\$30,245,246	\$11,434,004
2116 Other Work Equip	\$96,448,218	\$106,734,071	\$102,838,567	\$85,629,019	\$163,164,289	\$143,598,340	\$162,604,933	\$163,143,993	\$167,971,133
2121 Buildings	\$834,541,013	\$1,060,960,815	\$900,057,704	\$743,767,496	\$663,188,942	\$703,706,538	\$846,577,512	\$799,034,428	\$925,695,565
2122 Furniture	\$72,734,446	\$139,215,855	\$122,415,920	\$143,648,335	\$83,073,701	\$51,577,001	\$36,624,772	\$47,304,646	\$18,012,324
2123 Office Equipment	\$133,487,780	\$184,874,049	\$171,780,773	\$199,091,976	\$362,228,428	\$333,663,938	\$319,785,425	\$211,074,884	\$198,380,120
2124 Genl Purp Computers	\$826,123,078	\$744,713,897	\$785,931,348	\$692,733,859	\$803,018,356	\$884,373,715	\$952,262,493	\$942,142,401	\$1,025,751,335
(b) Central Office	\$3,477,551,318	\$5,205,996,185	\$5,411,699,369	\$4,851,769,998	\$4,670,145,440	\$4,002,747,949	\$4,211,785,883	\$3,866,378,534	\$3,526,177,535
(c) Operator Systems	\$47,578,943	\$3,471,828	\$2,550,906	\$10,323,247	\$136,714,084	\$96,793,040	\$171,852,273	\$166,259,716	\$115,531,322
Central Office/Oper Sys	\$3,525,130,261	\$5,209,468,013	\$5,414,250,275	\$4,862,093,245	\$4,806,859,524	\$4,099,540,989	\$4,383,638,156	\$4,032,638,250	\$3,641,708,857
(d) Transmission	\$3,134,104,500	\$3,759,688,113	\$3,820,916,263	\$3,986,154,053	\$3,670,259,301	\$3,254,878,795	\$3,483,593,564	\$3,738,724,911	\$3,854,069,863
(e) Information Orig/ Terminating	\$6,296,212	\$601,464,071	\$517,094,165	\$554,591,745	\$390,308,113	\$398,574,950	\$401,436,094	\$395,496,018	\$437,881,382
(f) Cable and Wire	\$5,902,074,266	\$5,309,394,998	\$5,255,196,634	\$5,162,938,982	\$4,879,227,149	\$4,875,501,462	\$5,538,210,554	\$5,436,315,761	\$5,964,597,384

## ORIGINAL INVESTMENT

	1984 Additions	1985 Additions	1986 Additions	1987 Additions	1988 Additions	1989 Additions	1990 Additions	1991 Additions	1992 Additions
Asset Categories:									
(a) Genl Supt (excl land)									
2111 Land	\$74,271,312	\$29,821,589	\$51,223,727	\$21,229,846	\$31,743,272	\$28,696,368	\$40,997,795	\$24,582,406	\$41,671,902
2112 Motor Vehicles	\$176,718,217	\$222,485,613	\$247,968,313	\$243,789,710	\$218,462,271	\$237,356,397	\$226,648,440	\$223,760,477	\$165,405,533
2115 Garage Work Equip	\$6,200,170	\$6,808,082	\$7,551,922	\$6,056,051	\$24,057,305	\$24,590,115	\$28,575,989	\$30,215,858	\$11,418,882
2116 Other Work Equip	\$95,392,181	\$106,403,895	\$101,844,749	\$84,296,016	\$163,566,620	\$137,759,631	\$164,800,111	\$162,877,139	\$169,169,095
2121 Buildings	\$844,113,747	\$1,036,533,590	\$899,790,451	\$742,736,123	\$604,197,830	\$702,043,135	\$848,600,939	\$803,500,242	\$930,158,521
2122 Furniture	\$103,746,368	\$198,918,248	\$105,431,096	\$136,104,857	\$80,913,277	\$41,163,253	\$36,495,592	\$47,351,011	\$18,341,649
2123 Office Equipment	\$125,528,299	\$150,789,746	\$147,669,887	\$198,972,750	\$382,299,933	\$315,955,340	\$307,635,408	\$201,889,504	\$198,830,406
2124 Genl Purp Computers	\$827,993,596	\$744,394,921	\$777,179,731	\$694,422,129	\$793,778,025	\$886,320,498	\$945,851,664	\$940,093,653	\$1,025,416,982
(b) Central Office	\$3,744,566,146	\$4,993,078,793	\$5,543,176,892	\$5,017,970,310	\$4,663,662,209	\$4,239,849,690	\$4,442,106,023	\$4,130,649,226	\$3,561,074,316
(c) Operator Systems	\$47,578,943	\$3,471,828	\$2,550,906	\$17,009,126	\$196,857,087	\$110,139,934	\$178,478,335	\$165,092,267	\$113,453,366
Central Office/Oper Sys	\$3,792,145,089	\$4,996,550,621	\$5,545,727,798	\$5,034,979,436	\$4,860,519,296	\$4,349,989,624	\$4,620,584,358	\$4,295,741,493	\$3,674,527,682
(d) Transmission	\$3,150,293,195	\$3,546,006,873	\$3,814,727,345	\$3,979,448,216	\$3,510,342,586	\$3,177,890,518	\$3,379,076,855	\$3,663,413,935	\$3,793,915,189
(e) Information Orig/ Terminating	(\$332,659,401)	\$674,092,884	\$526,456,457	\$629,761,113	\$390,273,689	\$400,884,627	\$402,155,627	\$397,216,102	\$433,098,204
(f) Cable and Wire	\$6,059,206,386	\$5,248,598,793	\$5,204,129,045	\$5,112,372,346	\$4,756,060,196	\$4,788,365,741	\$5,388,373,911	\$5,317,765,858	\$5,881,355,573

DIFFERENCE: CORRECTED INVESTMENT – ORIGINAL INVESTMENT

	1984 Additions	1985 Additions	1986 Additions	1987 Additions	1988 Additions	1989 Additions	1990 Additions	1991 Additions	1992 Additions
Asset Categories:									
(a) Genl Supt (excl land)									
2111 Land	(421,439)	1,856,834	48,494	12,917	488,715	194,455	161,898	18,418	940,000
2112 Motor Vehicles	(1,080,501)	(4,873,209)	270	0	60	(257,182)	266,417	(191,899)	(1,169,740)
2115 Garage Work Equip	(52,699)	(478,718)	(867,279)	(1,327,439)	490,267	522,482	(3,495)	29,388	15,122
2116 Other Work Equip	1,056,037	330,176	993,818	1,333,003	(402,331)	5,838,709	(2,195,178)	266,854	(1,197,962)
2121 Buildings	(9,572,734)	24,427,225	267,253	1,031,373	58,991,112	1,663,403	(2,023,427)	(4,465,814)	(4,462,956)
2122 Furniture	(31,011,922)	(59,702,393)	16,984,824	7,543,478	2,160,424	10,413,748	129,180	(46,365)	(329,325)
2123 Office Equipment	7,959,481	34,084,303	24,110,886	119,226	(20,071,505)	17,708,598	12,150,017	9,185,380	(450,286)
2124 Genl Purp Computers	(1,870,518)	318,976	8,751,617	(1,688,270)	9,240,331	(1,946,783)	6,410,829	2,048,748	334,353
(b) Central Office	(267,014,828)	212,917,392	(131,477,523)	(166,200,312)	6,483,231	(237,101,741)	(230,320,140)	(264,270,692)	(34,896,781)
(c) Operator Systems	0	0	0	(6,685,879)	(60,143,003)	(13,346,894)	(6,626,062)	1,167,449	2,077,956
Central Office/Oper Sys	(267,014,828)	212,917,392	(131,477,523)	(172,886,191)	(53,659,772)	(250,448,635)	(236,946,202)	(263,103,243)	(32,818,825)
(d) Transmission	(16,188,695)	213,681,240	6,188,918	6,705,837	159,916,715	76,988,277	104,516,709	75,310,976	60,154,674
(e) Information Orig/ Terminating	338,955,613	(72,628,813)	(9,362,292)	(75,169,368)	34,424	(2,309,677)	(719,533)	(1,720,084)	4,783,178
(f) Cable and Wire	(157,132,120)	60,796,205	51,067,589	50,566,636	123,166,953	87,135,721	149,836,643	118,549,903	83,241,811

## Attachment C

# CORRECTED TELEPHONE PLANT INDEXES

	1984 Index	1985 Index	1986 Index	1987 Index	1988 Index	1989 Index	1990 Index	1991 Index	1992 Index
Asset Categories:									
Genl Supt (excl land)	100.0	100.2	99.4	100.8	102.7	101.7	102.2	97.6	96.5
Buildings	100.0	85.9	97.7	104.6	109.9	116.3	112.9	108.2	131.4
Central Office/Oper Sys	100.0	99.5	97.9	99.0	97.4	97.2	98.0	95.5	94.5
Transmission	100.0	105.8	108.9	110.4	109.6	111.1	112.4	113.9	114.1
Information Orig/ Terminating	100.0	104.7	107.3	107.3	107.3	109.6	110.1	109.5	108.8
Cable and Wire	100.0	101.2	101.4	96.4	101.3	107.3	107.8	110.4	114.4

# ORIGINAL TELEPHONE PLANT INDEXES

	1984 Index	1985 Index	1986 Index	1987 Index	1988 Index	1989 Index	1990 Index	1991 Index	1992 Index
Asset Categories:									
Genl Supt (excl land)	100.0	99.9	98.5	99.9	103.1	102.5	103.1	98.2	95.9
Buildings	100.0	83.6	96.7	104.9	110.5	117.4	113.0	108.0	133.4
Central Office/Oper Sys	100.0	99.2	97.2	99.6	97.5	97.6	99.7	97.5	95.6
Transmission	100.0	105.8	108.9	110.5	109.4	111.2	112.3	113.5	114.4
Information Orig/ Terminating	100.0	104.9	107.4	107.1	108.6	110.8	111.3	111.2	112.3
Cable and Wire	100.0	100.8	101.3	101.9	105.0	111.5	111.3	111.2	113.8

RATIO: CORRECTED TPI'S/ORIGINAL TPI'S

	1984 Index	1985 Index	1986 Index	1987 Index	1988 Index	1989 Index	1990 Index	1991 Index	1992 Index
Asset Categories:									
Genl Supt (excl.land)	1.000	1.003	1.009	1.009	0.996	0.992	0.991	0.994	1.006
Buildings	1.000	1.027	1.010	0.997	0.995	0.990	0.999	1.002	0.985
Central Office/Oper Sys	1.000	1.003	1.007	0.994	0.999	0.996	0.983	0.979	0.989
Transmission	1.000	1.000	1.000	0.999	1.001	0.999	1.002	1.004	0.997
Information Orig/ Terminating	1.000	0.998	0.999	1.002	0.988	0.989	0.989	0.985	0.969
Cable and Wire	1.000	1.004	1.001	0.946	0.965	0.962	0.968	0.993	1.005

Attachment D

## CORRECTED AND ORIGINAL LABOR AND MATERIALS EXPENSE

Labor			
	Corrected	Original	Corrected/Orig
1984	22,413,559,353	22,006,884,562	1.018
1985	22,340,695,821	22,048,422,743	1.013
1986	21,927,445,357	21,665,458,184	1.012
1987	21,867,842,254	21,616,639,527	1.012
1988	22,019,313,282	21,693,221,282	1.015
1989	22,103,815,226	21,745,668,226	1.016
1990	22,470,471,358	22,084,514,358	1.017
1991	23,105,953,636	22,713,252,636	1.017
1992	22,940,901,651	22,800,785,651	1.006

Materials Expense			
	Corrected	Original	Corrected/Orig
1984	11,076,707,400	11,483,382,191	0.965
1985	12,064,691,602	12,356,964,680	0.976
1986	12,570,617,420	12,832,604,593	0.980
1987	12,216,314,259	12,467,516,986	0.980
1988	16,499,348,718	16,825,440,718	0.981
1989	18,344,548,774	18,702,695,774	0.981
1990	18,820,686,642	19,206,643,642	0.980
1991	19,996,228,364	20,388,929,364	0.981
1992	19,503,566,349	19,643,682,349	0.993

Labor + Materials Expense			
	Corrected	Original	Corrected/Orig
1984	33,490,266,753	33,490,266,753	1.000
1985	34,405,387,423	34,405,387,423	1.000
1986	34,498,062,777	34,498,062,777	1.000
1987	34,084,156,513	34,084,156,513	1.000
1988	38,518,662,000	38,518,662,000	1.000
1989	40,448,364,000	40,448,364,000	1.000
1990	41,291,158,000	41,291,158,000	1.000
1991	43,102,182,000	43,102,182,000	1.000
1992	42,444,468,000	42,444,468,000	1.000

## Attachment E

## CORRECTED AND ORIGINAL MATERIALS EXPENSE

Materials Expense		
	Corrected	Original
1984	11,076,707,400	11,483,382,191
1985	12,064,691,602	12,356,964,680
1986	12,570,617,420	12,832,604,593
1987	12,216,314,259	12,467,516,986
1988	16,499,348,718	16,825,440,718
1989	18,344,548,774	18,702,695,774
1990	18,820,686,642	19,206,643,642
1991	19,996,228,364	20,388,929,364
1992	19,503,566,349	19,643,682,349

Capital to Expense Shift		
	Corrected	Original
1984	1,694,034,541	1,694,930,416
1985	1,985,079,714	1,944,403,387
1986	1,959,363,711	1,991,387,103
1987	1,908,791,665	1,935,517,233

### Materials Expense Adjusted for Capital to Expense Shift and Nonregulated Expenses

	Corrected	Original	Corrected/Orig
1984	13,000,966,614	13,408,537,280	0.970
1985	14,456,657,719	14,708,254,470	0.983
1986	15,001,093,203	15,295,103,768	0.981
1987	15,214,675,926	15,492,604,221	0.982
1988	16,499,348,718	16,825,440,718	0.981
1989	18,344,548,774	18,702,695,774	0.981
1990	18,820,686,642	19,206,643,642	0.980
1991	19,996,228,364	20,388,929,364	0.981
1992	19,503,566,349	19,643,682,349	0.993

## Attachment F

# CORRECTED AND ORIGINAL BILLED REVENUE

Intrastate Access -- Billed Revenues	1984	1985	1986	1987	1988	1989	1990	1991	1992
TOTAL -- Corrected	\$5,474,681,595	\$5,836,195,769	\$5,795,046,604	\$5,844,936,227	\$5,928,082,901	\$5,938,211,401	\$5,838,883,509	\$5,891,410,095	\$5,787,327,617
TOTAL -- Original	\$5,184,870,597	\$5,836,195,651	\$5,737,757,249	\$5,844,936,230	\$5,620,933,674	\$5,704,480,581	\$5,594,502,844	\$5,501,128,924	\$5,401,267,948
Difference	(289,810,998)	(118)	(57,289,355)	3	(307,149,227)	(233,730,820)	(244,380,665)	(390,281,171)	(386,059,669)
Growth -- Corrected		6.4%	-0.7%	0.9%	1.4%	0.2%	-1.7%	0.9%	-1.8%
Growth -- Original		11.8%	-1.7%	1.9%	-3.9%	1.5%	-1.9%	-1.7%	-1.8%

Long Distance -- Billed Revenues	1984	1985	1986	1987	1988	1989	1990	1991	1992
TOTAL -- Corrected	\$11,101,053,293	\$10,954,863,967	\$11,716,681,029	\$12,390,283,479	\$13,013,853,303	\$13,344,223,799	\$13,183,983,706	\$12,579,895,450	\$12,083,024,023
TOTAL -- Original	\$10,575,862,498	\$10,569,610,550	\$11,346,652,417	\$12,009,990,785	\$12,738,375,742	\$13,182,085,924	\$13,053,921,201	\$12,568,752,151	\$12,205,396,093
Difference	(525,190,795)	(385,253,417)	(370,028,612)	(380,292,694)	(275,477,561)	(162,137,875)	(130,062,505)	(11,143,299)	122,372,070
Growth -- Corrected		-1.3%	6.7%	5.6%	4.9%	2.5%	-1.2%	-4.7%	-4.0%
Growth -- Original		-0.1%	7.1%	5.7%	5.9%	3.4%	-1.0%	-3.8%	-2.9%